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A

NEW HELP

TO THE

ART

OF

SWIFT WRITING.



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A  
NEW HELP  
AND  
IMPROVEMENT  
OF THE  
ART  
OF  
Swift Writing:  
BEING

An ALPHABET not only contrive'd to be convenient  
for that Purpose, but correspondent also in its Elements,  
especially the Consonants, to the several Articulations  
and Utterances that compose the English Language.

ALSO  
Suitable Rules and Expedients of joining Letters, and  
abridging Words.  
WITH  
• An APPENDIX, containing Characters and Instructions  
for the Use of a larger Sett of Vowels, in which a  
philosophical Exactness is farther purſu'd.

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By WILLIAM TIFFIN,  
Chaplain of Wigston's Hospital in Leicester.

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*Scribendo disces scribere.*

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## SWIFT WRITING improve'd.

### C H A P. I.

#### The INTRODUCTION.

**T**HIS Improvement of the Art of swift Writing, is not publish'd with the least Intention to detract from the Merit of any other Man's Performance. Besides Swiftnes, to which many others have directed their laudable Endeavours, and which is here also duly regarded, a peculiar Intention is pursu'd, that is not so much as attempted in any Book or Scheme of Short Hand that I know or ever heard of. That is, to suit the Alphabet to the Utterances of the Language.

'Tis well known that in writing English, we use the same Letter sometimes for one Sound, and sometimes for another, and now and then

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a Letter for no Sound at all; the same Sound is sometimes written by one Letter, sometimes by another, and sometimes by two together. Faults that visibly and necessarily begin from the Insufficiency of the Alphabet, and must needs multiply by the Want of Skill, which that Insufficiency makes difficult to attain: especially as that Way of Spelling which is usually counted the most correct, is not only not free from these Irregularities, but directs us to practise them.

Not to say how much other Confusion is thus added to the natural Imperfections of our Language, we may at least justly, with Dr. Holder, impute these Consequences. “ To “ render the Language more difficult to be “ learn’t, needlesly to advance Orthography “ into a troublesome and laborious Art, and to “ hide the Nature of Letters in Obscurity.” And consequently on the other Side, from an Alphabet truly Philosophical these Advantages may fairly be expected. He that is Master of it, may if he pleases express in Writing his own Pronunciation, or any other that he has a Mind to represent; it is a natural (and with the Assistance of sufficient Skill in the respective Language infallible) Instrument of teaching Foreigners to pronounce English; and if it were

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were brought into Use for that Purpose, wou'd make the Art of Reading easy to weak Capacities, and sooner learn't by at least three Fourths of the usual Time; and the Danger of spelling wrong 'twou'd take almost quite away.

That the Alphabet taught in this Book is such an Alphabet I dare not affirm, but such 'twas my Aim to make it, at least as far as I cou'd consistently with Swiftness of Writing, and Facility of Learning. Care is taken (I mean in the Consonants and that Sett of Vowels describe'd in the Appendix) to give every Character one Power of its own, in which no other Character is allow'd to interfere: Simple Utterances and Articulations are represented generally by simple Strokes; if any Reader shall happen to be of Opinion, that some simple Strokes are put to represent compounded ones, he may if he pleases reject them, tho' worth retaining if it be but for the Advantage of Swift Writing, both as affording other Compendiums, and being Compendiums themselves.

The Vowels of the first Sett are but in the main answerable to those of the common Alphabet, and tho' rather easier to learn, liable to much the same Confusion: for which Reason every Learner is requested, before he practises, to peruse the Appendix, in which 'tis attempted

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to compleat the English Alphabet with a Sett of Vowels; which may seem at first Sight perhaps somewhat uncouth to learn, but in Truth will scarce cost him three Hours Study extraordinary, if he does but take the Method to learn them which is there directed.

And as for the Length of the Instructions, either in Book or Appendix, let it not discourage you in the least; do but put them in practice, and then you need not fear but you'll remember them well enough. *'Tis by writing that we learn to write.*

C H A P. II.

Of writing out the ALPHABET.

**I**N the first Place provide yourself Paper rule'd with a red or faint Line, or with a strong Line on the Back-side, about sixteen Inches long; or if you choose to divide that Length into two or more, let your Lines not be less than three quarters of an Inch asunder. Upon that transcribe the Consonants which you will find Plate 1. Line 1, 2, and part of the third; observing to set the first Dot or Point a little above the Line, the second in the Line, and the third a little below it; and proceeding

## The A L P H A B E T. 9

ceeding to make some Strokes touch the Line with their Bottoms, others with their Tops, and others lie along the Line, just as you will understand yourself to be directed by your Copy; only it may be observ'd, that the Learner shou'd be careful to make the sloping Letters, rather more sloping, (I mean nearer to Horizontal) that they may be the plainlier distinguish'd from those that shou'd be perpendicular, which will be apt to be slope'd a little, by the Hand of a Learner. Write them very carefully and exactly, large, and no matter how slow; and set them at sufficient Distance one from another, to give fair and free Room to write over their Heads their Names in this Order following.

*Ya, ja, ha, va, be, de, em, en, te, pe, wa, ef,  
fa, ga, ka, el, ar, za, ing, ink, dha, tha, sha,  
cha.* Do this several Times over till you are sure you have done it exactly right. That done, it will be convenient to write their Names over again in this next following Order, that is, in the Order of the common Alphabet so far as it goes. *Be, cha, de, dha, ef, ga, ha,  
ja, ka, el, em, en, ing, ink, pe, ar, fa, sha, te,  
tha, va, wa, ya, za:* Then set every Character under its Name: do it twice or thrice to avoid Mistakes: keep a correct Copy of it, by which  
you

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you may readily find any Character that you may chance to forget: and the new Names here given to some of them will be an Assistance to you in mastering this or any Sett of Characters they shall be applied to. *He that will learn to write, must write.*

## C H A P. III.

### Remarks on the CONSONANTS, especially of this Alphabet.

1. **W**ORDS that in common Spelling are begun with *wb* are in universal Pronunciation, if the *b* be pronounc'd at all, begun with *bw*. If the Learner delights in Analogy he may rectify this in the Use of these Characters. And this is mention'd in the first Place, because it is so rectify'd in this Specimen where Instances occur.

2. Words also that are commonly spelt beginning with *kn*, are generally pronounce'd as with *bn*; though sometimes with *n* only: this I have used myself to neglect, though perhaps worth regarding.

3. When *c* is to be pronounce'd soft or hissing like *s*, you are to express it by *ſa*; when hard or clear like *k*, by *ka*.

## Of the C O N S O N A N T S.    II

4. *Gæ* is only to be use'd when sounded hard or clear; the soft or spungy Sound of *g* like *j* must be express'd by *ja*.

5. When *ch* is pronounce'd hard and clear like *k*, as in *Christ*, *cha* is not to be us'd but *ka*, *cha* is to be use'd in *Church* and the like.

6. *Dha* is intended for that Sound of *th*, that begins the Word *thy*: *tha* begins the Word *Thigh*. Not that the first is really compounded of *d* and *h*, nor the second of *t*, and *h*, but do indeed each of them merit their several Character.

7. In such Words as *Angel*, *range*, *change*, remember to use not *ing*, but *en-ja*.

8. *Ing* is something different from *ng*, as may appear in pronouncing the Word *angry*, which will be found to be compose'd of these two Syllables *ang-gry*, not *ang-ry*, nor *an-gry*.

9. *Q* is a superfluous Letter, being never use'd in the common Alphabet without *u*, and their joint Pronunciation in English is compounded of *k* with *w*: and *ka* with *wa* in this Character doth well enough express, represent both its Figure and Sound.

10. When *f* is to be pronounce'd hissing sharp, express it by *fa*; but when whizzing, thick, woolly like *z*, use *za*.

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11. That soft Sound of *f* in *occasion*, *derision*, *confusion*, is well enough express'd by *za-yə*, and conveniently for Swift Writing; but it might, not unjustly, be counted, as a simple Consonant, to merit a Character of its own.

12. In the Termination *tion* remember to use not *te*, but *ʃba*. *Shba* is not the united Powers of *f* and *b*; it is a simple Consonant different from both.

13. *Ka* and *sa* being put Back to Back form a Character well enough resembling *x*, and their Sounds so united express the Sound of it.

14. *W* tho' call'd a Consonant is form'd by the same Motion of the Lips as the Vowel in *shoot*; and if the Sound were to continue in the same Position for a sensible Length of Time, it wou'd actually be that same Vowel; therefore it is not only allow'd a Figure among the Consonants, but may also in the Appendix be found among the Vowels; and may be express'd by either Character, as shall suit the Dexterity or Accuracy of the Writer.

15. *Y* Consonant also bears the same Respect to the long Vowel in *Sheet*; only if any difference be besides Length, it is that *y* makes the Passage something straiter with the Ball of the Tongue; as may be perceiv'd in speaking the Word *yield* or *yeeld*, if you can; for there are

many

many that perpetually pronounce it *eeld* or *Eeeld*.

16. *Ink* is compounded of *ing* (not *en*) with *ka*, and its Character is admitted, because more towardly to write, than the other two jointly. *Cba* also is admitted, and *ja* retain'd for the like Reason; nor will these with some others, that are added because necessary to compleat the English Alphabet, give the Reader any thing near so much extraordinary Trouble in learning, as he may find Advantage, and Compendium in the Use of them.

Having taken especial Notice of the first, third, fourth, fifth, sixth, seventh, tenth, and twelfth of these Remarks, taking any three or four of the Consonants, write them over and over, always pronouncing every Letter's Name with your Voice, at the Instant you make the Stroke with your Pen; then do the same with three or four others, and so go through them all; and after that, taking more and more at once, practise to write them forwards, backwards, and in any Order, till you find yourself able to strike any one of them instantly when named.

Then just take a View of both Setts of Vowels, transcribe them, with their numeral Figures, not over, as over the Consonants, but under

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under them: because when you come to use them, they are to be place'd about half a Quarter of an Inch above the Line of the Consonants. This for the present will be enough to know Vowels from Consonants when you see them.

The first Sett mark't 1, 2, 3, 3, 4, 5, answer to a e i (and Vowel y) o, u, and need no farther Explanation, only that the first 3 stands for i long, and the second 3 for i short: but persuade yourself if you can, to learn a compleat Sett of Vowels, and turn to the Appendix, where you will find Instructions for it; or else let Vowels rest till you meet with further Directions about them.

CHAP. IV.

OF JOINING.

1. **C**Onfonants that stand together in the same Word, without any Vowel between them, should be made to touch, if they can conveniently; or at least, be set closer together than where a Vowel is sounded between them.

2. Those Letters whose ordinary Place is to lie along the Line, may lye a little higher, or

a little lower for the convenience of Joining; and so may *ing* and *ink* if there be Occasion.

3. The strait Letters that rise above, or dip below the Line, may be made as short as you please, to suit the same Convenience.

4. In joining *ar-ga*, *ar-ka*, *ef-el*, *fa-el*, Part of each Letter may become Part of the other.

5. When *el* or *ar* is join'd to another Consonant, you need make but a little Bit of it, just enough to shew which Way the Turn is to go. In *Praise*, *prize*, *present*, &c. *ar* may be represented by a fine Stroke continu'd from the Bottom of the *pe* till it joins the *za*; and so in *Prayer*.

6. *De* and *te* may both be struck at one Stroke; but then, though *te* do lie somewhat behind, yet *de* must be understood to be the first of the two: observe the like in *ga-el*, *ka-el*, when thus join'd; not forgetting *be-pe*.

7. You'll find some Consonants of that Nature, or Situation, that there must undoubtedly be a Vowel between them. When this is the Case, they may be join'd notwithstanding: for Instance, the Terminations *ing*, *eth*, *ance*, *and*, *ant*, may be join'd to the foregoing Consonant without Scruple; except there be two Vowels between them, which Case is to be made distinguishable by their not being join'd. And *el*

or

or *ar* when thus join'd to another Consonant with a Vowel between them, should have its compleat Form; which will distinguish the Case from that where they are made imperfect, having no Vowel between.

Note, Words commonly spelt as ending with *ble*, *dle*, *fle*, *kle*, *ple*, &c. in Pronunciation have always a short Vowel sounded before the *l*; therefore in this Writing, the *el* should not be join'd to the foregoing Consonant; not for the Sake of Exactness only, but also to distinguish the Case from that where the Word ends with *bly*, &c. where the *el* must always be join'd. There are some Words ending with *re* liable to the same Observation. All Words in their Nature *distinguishable* should be express'd *distinguishably*.

8. Words are to be separated a little wider, Members of Sentences, Paragraphs, &c. wider still. It may seem to be Matter of too much Curiosity for common Use; and yet perhaps Custom and Habit would make it easy; to leave Spaces proportionable to the Length of all Pauses.

C H A P.

## C H A P. V.

## Of ABBREVIATION.

**A**S this Character is much intended for saving of Time in Writing, and as People often have Occasion for quicker Dispatch than can possibly be made with alphabetical Characters in full Spelling and Orthography; the following Rules of abridging Words are offer'd: of which the Learner may take more or less into his Practice, according to that Degree of Dispatch he intends to qualify himself for.

1. When the Writer is in any Degree of Hast, most if not all Vowels may be omitted: The Scheme of this Alphabet is contrive'd on Purpose that they may be omitted commodiously: and many Pieces of Writing may easily be read without them, b n th-t nd-rlt-nds th L-ng-ge, nd s -cq-nt-d w-th th S-bj-ct, sp-c-ll- f H- h-v b-n -s'd t d t. But whatever is thus written in Hast without Vowels, should soon be look'd over again at Leisure: and then if the Writer thinks fit, he may put every Vowel in its Place, or at least enow to prevent Mistakes in Reading. This Rule is no Burden

B to

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to the Memory, no Interruption to the Thoughts while one is writing, nor liable to Errors in the hasty Performance.

2. All Consonants that are not pronounce'd may be left out, and most doubled Consonants may be left single; being there will always be Room to double them at Leisure.

3. When there are enow written, Vowels or Consonants, to shew what the Word must be, the rest may be omitted: For Instance in the *Termina-tion* n may generally be omitted, in *ble* l, in *ness* ss, in *ful* l, in *et* t; &c.

When the Reader may be suppose'd to know that the Ends of two Lines Rime to each other, the Rime may safely and unquestionably be left short in one of them if not both.

Where e'er you find the cooling Western Breeze,  
In the next Line it whisper's through the Tr  
If crystal Streams with pleasing Murmurs cr  
The Reader's threaten'd not in vain with Sl

4. Sometimes a Consonant may be omitted in the middle of a Word, that is, if there be but enow before or after to shew what the Word must be: so in the Preposition *con* n may commonly be omitted, in *dis* s, in *prof* s, in *test* f; and upon Occasion any Letter that doe's not towardly join to that it ought to be join'd

## A B B R E V I A T I O N .    19

join'd to, may be omitted in hast, and inserted afterward. However this shou'd rather not be practis'd, except in Words that the Writer has consider'd of beforehand; and the same Cau-tion is still more requisite in the following Rule.

5. When the Writer is well acquainted with his Subject and perfect in the Character, he may indulge farther Liberties; such as joining Letters that happen to be conveniently joinable, tho' against the Rules of Joining; or omitting a Consonant or two, though the rest be not quite enow to shew what the Word must be.

6. The longer any Word is, the more safely and conveniently may every Sort of Liberty be taken, and that extended even to two or three Words, if they be such as frequently come together. Many Words made ambiguous by the Practice of these Rules may quickly be made unquestionable by inserting a Vowel or two, more conveniently perhaps than by so many Consonants.

7. The farther One proceed's in a Discourse, or even in a Sentence, the more Liberties may be taken: and more in a long Sentence or Dis-course than in a short one. The Reason for this will appear as You practise; and will soon

B 2                      make

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make You ready at distinguishing the proper Opportunities.

8. Beside the Compendiums proper to this Character and common to all Subjects, there are others suitable to all Characters, some of which are more proper to certain Subjects and Sciences. Therefore it may be usefull for a Man to consider what He ha's most Occasion to write upon, and to make a Catalogue of those Words that are like to take up most of his Time in writing; either because They occur often, or consist of many Letters, or those untoward to join; and contrive to abridge them Himself according to the foregoing Rules, or pick what He can find of them in the Table p. 22. 23. If He can't do that to his Mind, represent them by some arbitrary or symbolical Mark (such as there is great Choice of in Rich, Mason and others) or by their Initials, either in this Alphabet made visibly larger, or any other that He knows and can nimblly write.

9. But, in short, Terms of Art may upon Occasion be quite omitted: the Writer understanding the Matter may add them afterwards; and if not, another may.

10. In Cases of extraordinary Dispatch, as writing after nimble Speakers, a Writer having  
Himself

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Himself a good Memory and Judgement in the Matter of Discourse, or assisted by those that have, may content Himself with writing only the first Consonant of every Word, or with the second if join'd to it. Upon Mr. Bale's capital Rule, which is parallel to this, Mr. Coles make's this judicious Remark. " And " the Truth is, if Things were but transcrib'd " at Length (or only review'd and corrected) " while the Matter is fresh in Mind, then " half that Nicety (which otherwise is requisit) " might at first writing well be spare'd, even " by an ordinary Memory."

These Rules may (all except the first) be usefull in any Alphabet, when Dispatch is mainly requisit; but 'tis visible how by the Contrivance of this, the first especially is naturally and commodiously practicable, and much of that Ambiguity remove'd, which Compendiums are apt to create in Alphabets not copious enough, or improperly copious.

A TABLE of certain Words at Length place'd in the same Order, Rank  
and File, as you may find them abridge'd, Plate II.

|                |                           |                     |                 |                    |                    |
|----------------|---------------------------|---------------------|-----------------|--------------------|--------------------|
| Abundance      | another, or               | brother             | childrens       | children discharge | evermore           |
| acknowlege     | neither                   | broken              | children of Men | discover           | executor           |
| administrator  | altogether                | burnt-offering      | comfortable     | disdain            | faithful           |
| administrators | baptism                   | burnt-sacrifice     | comfortably     | dishainful         | father, or feather |
| administration | beneathe                  | Captivity           | congregation    | dishonour          | favourable         |
| advantage      | Bishop                    | caterpillar         | deserve         | dishonest          | fellowship         |
| adversary      | blaspheme                 | Chief-Justice       | destroy         | disinherit         | first born         |
| adversity      | blasphemy                 | children            | determin        | distinguish        | flourishing        |
| advice         | blasphemer                | children of Abraham | deceitful       | drink-offering     | foot-step          |
| against        | blasphemous               | children of Jacob   | deceitfully     | Egypt              | fore-father        |
| Allmighty      | blessing                  | children of Israel  | didst           | evening            | for ever and ever  |
| Allmighty God  | blood-thirsty             | children of Judah   | disappoint      | everlasting        | for evermore       |
| •hing          | understanding ungodliness | yourself            |                 |                    |                    |

and Plate 12

|              |                   |                |                 |               |               |
|--------------|-------------------|----------------|-----------------|---------------|---------------|
| Forgiveness  | ignorant          | knowledge      | mouth           | preserve      | subscribe     |
| foward       | ignorance         | left hand      | nevertheles     | remembrance   | sing.         |
| Generation   | imagination       | liberty        | nothing         | replenish     | spring        |
| give thanks  | inherit           | long suffering | notwithstanding | reprove       | sprinkle      |
| God          | innocently        | Lord           | occasion        | reproach      | strength      |
| God of Abram | joyful            | Lord of host   | organ           | respective    | strengthened  |
| God of gods  | judgement         | Lord of Lords  | overthrow       | reverence     | subject       |
| Harpsichord  |                   | Lord God       | overwhelm       | righteousness | suggest       |
| harvest      | King              | Majesty        | peace-offering  | righthand     | sufficient    |
| himself      | King of Kings     | marvellous     | perfection      | sanctuary     | Tabernacle    |
| honourable   | Kingdom           | much           | praise or prize | savest        | testimony     |
| Ignominy     | Kingdom of Heaven | morning or     | prayer.         | scribe        | Thanksgiving. |
|              |                   | mourning       |                 |               |               |

## C H A P. VI.

## Of PRACTICE.

HAVING well consider'd the Rules of Abbreviation, copy out into your usual Hand Writing two or three Pages of the Specimen, which consist's onely of Consonants : leaving sufficient Blanks for the Vowels, which are omitted ; and for *ja*, *ka*, *sa*, *za*, which being liable to some Uncertainty, it may be proper for the Learner to let alone till He is sure of them. Look it over twice at least, and at the third Time, put in as many of them and of the Vowels as You do know, and be easy about the rest. However recollect if You can from whence the Matter is taken, or turn to Chap. 3. and there You'l see what it is. Peruse and compare them, and then lay them by. The next Time You take it up try to read it in the Character, and consult the Print as often as You find it necessary. When You have thus gone through the Specimen to Plate 8, it will be Time to make your Choice of a Sett of Vowels ; of which that Sett mark't 1,2,3,3,4,5, will do as well as any other five, and rather better than the common six : but the other

1, 2, 3, 3, 4, 4, 5, 6, 7, 8, 9, describe'd in the Appendix is upon many Accounts greatly preferable. If You have been discourage'd at Them before, now look at Them again and take Courage.

N. The Vowels of either Sett may, if the Writer pleases to make Room enough in and between his Lines, be distinguish'd into long and short, by makeing them of a greater or less Size, and the accented by being place'd something higher than the rest. Putting the Dot or Point for the Cifer, the nine Vowel Characters describe'd in the Appendix may be use'd for the nine arithmetical Digits, and in that Capacity place'd if you please upon the same Line with Consonants, as if the Consonant *ja* shou'd represent o, *ef* 1, *el* 2, *en* 3, *be* 4, *de* 5, *ar* 6, *va* 7, *za* 8, *ga* 9.

In practising to write them, forget not, that as Vowels they are to be place'd almost a quarter of an Inch above the Line; and minde, as You did with the Consonants, ever to pronounce the Sound or Name of each Vowel with your Voice, at the Instant of making the Stroke.

When Master of either Sett, then transcribe into your common Writing the Specimen Plate 9, or rather that Plate 10; each of which is furnish'd

furnish'd with a convenient Share of Vowels, Plate 9 from the Five, and Plate 10 from the nine: Plate 10. is fill'd a little fuller with Vowels onely to give the Learner the more Opportunities of observing and comparing their Powers; not because it require'd more of Them than of the others to make the Specimen legible. If You miss any Vowel that You cannot supply, or meet with any Diphthong that You cannot explain, let it pass. However transcribe what You have done back again from your common Hand Writing into the Characters, and perusing it again, add [to the best of your Judgement] so many Vowels as You think wou'd have been sufficient to make it legible. Then peruse again your Copy of common Writing and fill up as many Vowels as You can. Once more transcribe the Consonants into Characters, and add as many Vowels as You think necessary. Compare again with the printed<sup>a</sup>; and if You find your Self mistaken any where, add such Vowel or Vowels as wou'd have prevented your Mistake.

Perhaps

<sup>a</sup> How Rime wou'd flourish did each Son of Fame  
Know his own Genius, and direct his Flame!  
Then He, that cou'd not epic Flights rehearse,  
Might sweetly mourn in elegiac Verse;  
Or were his Muse for Elegy unfit,  
Perhaps a Distich might not strain his W ;

Perhaps I need not tell You, that when A, I, or O stand alone, they shou'd always be written as soon as there is Time for it ; and so shou'd a Vowel beginning or ending a Word most commonly ; but any other short unaccented Vowel will scarce ever need to be written at all.

Now write out some Things of your own Choice. Let the first be such as You can say by heart, next, if You please, transcribe this Book and Appendix. When You can write and read these readily, then take new Subjects ; let every Piece lie by to be peruse'd in it's Turn a Week or a Fortnight after ; then compare with the Original and add the necessary Vowels. You'll find as You go on fewer and fewer Vowels will be needful, and in a very little Time will learn to know which are needful and which not, and be qualifie'd to use the Liberties of the third and following Rules of Abbreviation.

However, if You happen to have the Convenience of a Fellow-Student, or the Author in your Neighbourhood, it will be useful to send Writings and take one another's Judgment upon your Doubts and Ambiguities.

Though

If Epigram offend, his harmless Lines  
Might in gold Letters swing on Alehouse S .  
Gay's Journey to Exeter.

Though I have always thought and do think this Character to be capable of being written with Beauty ; yet I expect most that learn it will rather choose to write it with Ease and Swiftnes : and therefore I recommend it to Them, to use Themselves to bear the Hand lightly, and to form the Letters if They can rather by the Motion of the whole Hand, than of the Knuckles or middle Joints of the Fingers, with a Pen that yeild's the Ink at the least Touch of the Paper, and held with its Neb rather towards the Thumb, in Posture as if to draw a full Stroke from the Left above to the Right below. On Occasions where the Continuance of the Writing is not regarded, You may more commodiously manage a Pencil of black-Lead or red Chalk, or the best that I can think of, which is a Slate-Pencil upon a Slate. Round Tables are bad, the smaller the worse.

## C H A P. VII.

## Of other LANGUAGES.

IT may be doubted perhaps whether this Alphabet contriv'd with so particular a View to the English, be capable of being imploy'd in foreign

foreign or antient Languages. As to foreign modern Languages; if the Learner be content to be guided by the Spelling, He has no more to do but to apply so many as He finds sufficient of the Consonants and the five Vowels, and use Them as He doe's in English: but if He has a Mind to persue the Pronunciation, as with this Alphabet He may do, He must take Vowels from the nine; and as He possibly may meet with a Vowel or Consonant whose Power is not represented in this Alphabet, He must in that Case invent a Character for it Himself, which if He intend's to communicate, it will be necessary to give an Account of that Situation, or Motion of the Parts of the Mouth, Throat, Breast, and Way and Strength of Breath, by which the Sound or Effect of that Character is to be express'd: but then He will find an uncommon Advantage in expressing the Names of Persons, Places, native Animals, Plants, Drugs, &c. which Travellers and Translators commonly make confuse'd Work of, by straining to express Them according to the Spelling of their own Nation.

As to antient or dead Languages I have nothing particular to add; but only shall venture for instance to match the Letters of the Hebrew (a Language of whose antient Pronunciation

tion we have but a very imperfect Knowledge) with a Sett pick'd out of these Consonants, and out of the nine Vowels describe'd in the Appendix. Not that I imagin any such Use will ever be made of them in Swift Writing, but because I can by this describe, to one that understand's the Use of these Characters in English, a certain Method of pronouncing Hebrew Scripture, which may probably have in it as much of the genuin Pronunciation of that Language as any other now in Use with us; at least is consistent with it's self, and consequently easier to learn than such Pronunciations as are usually got by studying the Points: easier indeed than ever it cou'd be to learn to read English, or any other Language in Europe, in its native Pronunciation, by so defective an Alphabet as the common one.

Write out the Hebrew Alphabet fair, and put to every Hebrew Letter it's correspondent Character, if a Consonant at it's Foot, if a Vowel over its Head, as you find them refer'd to in the following Scheme, wherin every Consonant is represented by it's Name, and every Vowel by it's arithmetical Figure.

|    |                |    |                           |
|----|----------------|----|---------------------------|
| x. | i. long;       | n. | em;                       |
| z. | be;            | o. | en;                       |
| a. | ga;            | p. | fa;                       |
| t. | de;            | y. | 5, or 6                   |
| n. | ha;            | d. | ef;                       |
| r. | 8, or wa;      | g. | za-ya, as<br>in Occasion; |
| m. | za;            |    |                           |
| p. | 2. long;       | r. | ka,                       |
| v. | te;            | s. | ar;                       |
| w. | 4 long, or ya; | h. | sha;                      |
| c. | cha;           | f. | tha;                      |
| b. | el;            |    |                           |

Practise to name or sound each Hebrew Letter according to the Expression of the correspondent Character or Characters: and when you read you may take the Liberty, whenever you want a Vowel between two Consonants, to put in the Sound of a short z, at your Pleasure; do the same between any Vowel and n final. In the Case of dubious Letters i and o, there is so little Difference between each Vowel and it's respective suppose'd Consonant, that you need not scruple in them, much less in y, to please your own Fancy: and keeping within these Limits may depend upon it, that Reading shall represent to the Ear, the same Letters, so many and no more, as the Writing presents to the

the Eye. It must be confess'd, that cha frequently repeated makes a disagreeable Sound; if any Man can recollect a pleasanter, that wou'd suit the Greek X, and at the same Time would be easily distinguish'd from K, I shall commend him for using, and thank him to communicate it. After all, if the Reader shall happen to be of Opinion that this Pronunciation of Hebrew is not worth learning for it's own Sake; at least it may serve for an Example to shew, how any given Pronunciation of that or any other Language may easily be communicated with the Help of a sufficient Alphabet.

A P P E N-

# A P P E N D I X.

## Of English Vowels.

**I**N the common English Alphabet are no more than six Letters that are call'd Vowels, and two of these having in that Capacity one and the same Power, consequently the six Letters answer the Effect and Conveniency of but five Vowels. But if you attend to the Sounds of the English Language as they are utter'd by the Voice, you may distinguish at least nine; provided you minde to distinguish them, not by the Spelling, but by your Ear: as

1    2    3    4    5    6    7    8    9.

Long. Arm Ale eat Eel all O ooze Herb

Short. Am Ell it of up good .

These few Examples wou'd be sufficient, provided the Author and Learner do but agree in the Pronunciation of them: but as that cannot be depended upon, some Observations are added upon Variety of Spelling and pronouncing, with more Examples of each Vowel; in which, if we shall happen to agree, it may reasonably be presume'd, we understand one another right.

C

As

As the common Alphabet doe's not afford every one of these Vowels a Character, so neither is common Spelling so consistent as it might have been, in the Use of what it doe's afford; and so one that is much guided by it, will be apt to mistake one Vowel for another, a Vowel for a Diphthong, and the contrary. Thus, the first Vowel long in *Arm*, short in *am*, and the second long in *Ale* are all spelt with an a, but if you pronounce those Words right with Deliberation, the Vowel in *Arm* and *am* will be found to be the same, and that in *Ale* to be different enough. The second Vowel long in *Ale*, and short in *Ell* being spelt with different Letters may be fancy'd to be different Vowels, but if you pronounce *Ell* clearly and with Deliberation, will be found to be the same except in Length only.

A simple Vowel may be distinguish'd from a Diphthong by the Ear, by this Rule. The Sound of a single Vowel continu's the same from first to last if drawn out never so long: therefore, if before you have done you hear yourself making a different Sound from what you begun with, then you have founded at least a Diphthong, which takes two Sounds into one Breath, or perhaps a Triphthong which takes three. Thus the first Vowel in *Heart*, *laugh*;

*laugh*; the second in *great*, *Bear*, *head*; the third in *eat*, *sieve*, *Breech*; the fourth in *see*, *grief*; the fifth in *saw*, *fault*, *George*, *broad*, *Cough*; the sixth in *Road*; and the eighth in *too*, *you*, being usually spelt with two Letters, commonly pass for Diphthongs; but if examin'd by the foregoing Rule will be found to be simple Vowels. In like manner the common English Sound of i long and of u long, will be found to be Diphthongs though not commonly so reputed.

Many more such Observations may the Learner make by himself in perusing the Examples of the following Table.

**Long**  
**Short**  
**Long.**

1                   2  
bate,           bett,  
Batt,           half,  
great           laugh,  
Ralph           Heart,  
aim,           late  
Aunt

4                   5  
Beet,           bought,  
bit,           Bott

6                   7  
Boat,           but  
grief

8                   9  
Boot           Bird  
Sir

Short           am           let  
                at           head  
                Ant.           health  
                breath

Sieve  
breech

Shoe  
two  
Tomb  
Rome  
Room  
You

good  
rub  
rough  
one  
Son  
Sun

Toad  
To  
Beau.  
broad  
fort

Fort  
to  
Sot

Tongue  
come

Shoe  
two  
Tomb  
Rome  
Room  
You

good  
rub  
rough  
one  
Son  
Sun

Toad  
To  
Beau.  
broad  
fort

Fort  
to  
Sot

The Cause of the greatest Difficulty lie's in this, that the different Pronunciations of the same Word in different Parts of the Nation, may cause what is mean't of one Vowel or Diphthong by the Writer, to be understood of another by the Reader. Peruse therefore the foregoing Table, pronounce every Word of it as distinctly and clearly as you can; and make it your Busines to observe whether you cou'd, of your Accord and without purposeing so to do, pronounce every Word in the same Column with the same Vowel, and all Words in different Columns with different: for if not, then the Author's Pronunciation and yours must be somewhere materially different; the Cause of which Difference you ought to know, and may probably discover in the following Remarks. But be pleas'd to understand, that when the Pronunciation of particular Counties, of Rustics, of the Polite, or illiterate is mention'd, it is not with Intention either to recommend or censure; but in Compliance with the Opinion of the Public; the Purpose and End of every Remark being to give the Reader Opportunity to discern the Description of his own Pronunciation, and what Likeness or Unlikeness it bears to that intended by the Author in the several Monosyllables that compose that Table.

## Remarks upon particular VOWELS.

1. **T**HE first Vowel is hardly ever essentially long except before an *r*; but in other Situations is pronounce'd long or short in the same Word, according to the Fashion of Places, or Humour of particular Persons: and the same may be observ'd of some Monosyllables spelt with other Vowels.

Instead of the first Vowel the Northern Counties usually found the fifth; and so do illiterate Persons in many other Parts.

In *laugh*, *half* the second is sounded long by many, for instance in *Nottinghamshire*, and in the first Syllable of *Father* (rustically) in *Norfolk*, in the first of *Water* in *Leicestershire*, and elsewhere: these four Examples being pronounce'd each with three different Vowels in different Places, 1, 2, 5.

2. For the second Vowel the Northern are apt to sound the first, and sometimes the fifth. *Great* is pronounce'd by some in the Midland with the third, by others with the fourth long, and others with the third short. *Head* in the Midland with the third long or short, in *Norfolk* with the third, and more northerly with the first short.

3. In *Leicestershire*, *Bay*, *lay*, *may*, *Tail*, &c. are commonly pronounce'd with the third Vowel, but more emphatically with the fourth.

For the third Vowel long the Northern (for instance *Lancashire*) frequently sound the second long; *Leicestershire* the same third Vowel, but short, as *it* for *eat*.

For the third short the Northern often the fourth long; as *seek* for *sick*.

Mr. Kirkby is of Opinion that the third Vowel doe's not occur short; nevertheless when Syllables that he take's to be founded with the fourth short are prolong'd in Melody, Scorn, Reproach, Expostulation and such Emphatical Expressions, the third I think is manifestly founded in Them, and not the fourth. The Dot or Point therefore being an equally fit Abbreviation of either Character, leave's it fairly to the Readers Judgement.

4. The fourth Vowel is the Sound of *i* long to most of our northern Counties; and so far as I know, to all *Europe* except English Men.

In *Leicestershire*, *Bay*, *Day*, *lay*, *pay*, &c. are emphatically pronounce'd with this Vowel only.

5. For the fifth long the sixth is often founded; as in Syllables spelt with *au*, or *aw*, by many in the North; and in *broad*, *sort*, &c.

there and elsewhere. *War*, *warm*, *what*, are often sounded with the first; and the first Syllable of *Water* with the second. In some Midland Places, *Cough*, *long*, *Tongs* are commonly pronounce'd with the seventh, and *Tongue* with the fifth.

*All*, *call*, and some more such are founded in the West with the first.

To pronounce *thought*, *brought*, and the like, with the fifth Vowel onely, seems to be a modern Fashion; there being some Persons in almost all Places, that continue to pronounce such Words with a Diphthong compounded of the fifth and eighth.

6. For the sixth long, People far North pronounce some the second, others the third; in *Leicestershire* sometimes the fifth, as in *chose*, but more frequently the seventh as in *Rope*, *close*. So the Word *Stone* is variously pronounce'd with 2, 3, 5, 6, 7. i. e. *Stane*, *Stean*, *Ston*, *Stone*, *Stun*.

In many Places, *Door*, *poor*, *goe*, *smoke*, &c. are affected to be pronounce'd with the eighth.

The Particle *to*, being naturally very short, is often carelessly pronounce'd with the seventh or eighth, and so is any short Syllable spelt with *o*.

7. The Sound of the seventh, Mr. *Kirkby* say's, is scarce known to the Inhabitants of the North, who always use the short Sound of the eighth Vowel instead of it. But I have often heard *North Britons* pronounce it, though not in it's own Place; as *stuff* for *stiff*, *Tiffin* for my Name *Tiffin*; and more southerly *fury* for *forty* is founded by the same Persons, who contrary-wise found *thorty* for *thirty*.

I don't know that this Vowel is ever pronounce'd long, except in Melody, Scorn, Reproof, Expostulation, and such emphatical Expressions, in which other short Monosyllables and final Syllables may be also prolong'd.

8. For the eighth Vowel short the Vulgar in some Parts of *Norfolk* [*Lyn*] pronounce the seventh short, for the eighth long the Diphthong (but commonly reputed single Vowel) u long; which Scottish Men often use for the eighth short.

9. The ninth is a Vowel hardly ever heard but before an r accented; in which Situation the first is often pronounce'd instead of it; though the seventh in the same Situation is much more like it. In Swift Writing it is of small Concern, and scarce ever necessary to be written. There is a Vowel commonly pronounced very indistinctly between two Consonants,

nants, whereof the latter is a liquid, the Accent lying upon the next foregoing Vowel; as in *Bottle, Schism, Button, Butter*. Perhaps 'tis the ninth, perhaps only the proper Vocality of the subsequent Liquid; make what you can of it; though if you make nothing of it, the Loss is but small.

Many more Varieties of Pronunciation might be useful to mention by one whose Residencies or Journies qualify him to do it: and 'tis recommended to the Reader to be trying what he can do that Way himself: but 'tis hope'd these Observations will be enough for the present to prevent him from being impose'd upon by any irregular Pronunciation of mine, which I am not conscious of; and do intreat him to be as cautious, that his own do not mislead him to misapply the foregoing Remarks or Examples. But if farther Satisfaction be require'd in this Matter, let him try what he can make of the following—

### Account of the VOWELS in a Philosophical Manner.

**S**Peaking is perform'd by several Motions and Positions of the Lips, Tongue, Palate, and

and Windpipe, by which the Breath is driven, resisted, stopt and let go from the Wind-Pipe thro' the Lips or Nostrils, and it's Passage form'd and figur'd in such Ways and Manners as are requisit to utter such Sounds as the Language spoken consist's of, or such Words, Part of that Language, as the present Intention require's. But wheras these Motions are made meerly for the sake of the Sounds, People commonly regard the Motions themselves so little, that even when they are making them they scarce know what Motion they make.

Reading is the Art or Habit of making such Motions and Breatheings, as utter such Sounds, as answer to the known Significations of certain Marks call'd Letters; of which some are call'd Vowels, and the rest Consonants. Consonants imply the Motions by which the Breath is driven, resisted, stop'd, or let go: Vowels, which here are chiefly to be minded, imply the forming and figuring of the Passage through which the Breath is to pass, and from whence the Sound is to be utter'd: and because one and the same Motion doe's in some Instances perform Part at least of both Offices, therefore the Letter that denote's it, become's ambiguous, Vowel or Consonant. ex. gr. w and y.

Vowels

Vowels in the English Language are nine, and as Mr. Kirkby affirm's (I believe rightly) no more. Each of these require's the Insides of the Speaker's Mouth to be form'd and figur'd, as near as I can judge, according to the several following Descriptions.

1. Lay the upper Side or Surface of the Tongue, all the Way, level (or nearly so) to the under Lip, with it's Edges just high enough to lie against the upper Jaw-Teeth, unclose the Lips quite to the Corners of the Mouth; and in that Posture you may found the Vowel that is represented by the a in *Bar, bad, Father, &c.*

2. Begin at the hinder Part to swell up the Ball of the Tongue as far forward as the hinder Part of the Bone of the Roof, and let it's Edges feel the upper Jaw-Gums; and the Vowel founded in that Figure will be that intended by the a in *Ale*, and by the E in *Ell*.

3. Advance the Swelling of the Tongue about half Way forward under the Bone of the Roof, and let the Edges press the upper Jaw-Gums a little; and there you meet the Vowel spelt with ea in *eat*; and as I think, that spek with i in *it*.

4. Bring the Swelling as near as ever to the Roof of the Mouth and fore Gum, hold the Edges of the Tongue somewhat stiff against

the

the upper Jaw-Gums; and so you may pronounce the fourth Vowel, as in *See, seen, Eel,* &c.

N. In these four forename'd Vowels, the Lips were to be unclose'd quite to the Corners of the Mouth, or very near; in the five following they must be close'd a little, and to be sure, a little more than they shou'd be in the first four.

5. Sink the upper Surface of the Tongue all the Way below the Level of the under Lip, as low as ever you do (supposeing you to be an Englishman) when you speak, and (the Mouth being close'd a little at the Corners) the fifth Vowel will be sounded, as in *all, saw, Saul, trott, &c.*

6. Let the hinder Part of the Tongue rise a little, draw the Tip of it down inward, close the Lips about one third Part at each Corner, and form a roundish Hole in the remaining third Part in the middle, and this will give the Sound of the sixth Vowel *ö, Toe, sole.*

7. Advance the Rising or Swelling of the Tongue somewhat forwarder, let the Lips open again towards, but not quite, nor quite so near to the Corners of the Mouth as in the first four Vowels, the Tip of the Tongue stand slopeing downward with some little hollow Space under it;

it; and the Vowel so founded, will be the seventh, as in *up*, *but*, *curl*, *come*, &c.

8. Do but advance the Lips forward from the fore-Gums, affecting the Form of a Spout, and you can't miss sounding right the eighth Vowel in *ooze*, *too*, *Shoe*, *shoot*, &c.

9. The ninth Vowel being of small Concern in swift Writing is therefore the less necessary to be nicely describe'd; however if the Learner is willing to give so much Attention, he may hit upon the true Pronunciation of it, by placing his Lips and Ball of his Tongue as for the first Vowel, and the Tip of his Tongue as for the seventh.

I do not pretend to affirm that each of these is the onely Way the respective Vowel can possibly be pronounce'd, nor am I quite sure there is no more Vowels in our Language; however at least for the present these Nine may be regarded as so many Terms fix'd and measur'd out, by comparison with which we may make our Observations if either Foreigners naturally subdivide them, or our own Countrymen, as they do sometimes through Bashfulness, sometimes Affectation, sometimes Doubt, between one Vowel and t'other, split the Difference.

How-

However, if after all this the Learner ha's not settl'd in his Mind clear Distinctions of the nine Vowels, it yet remain's, to apply himself to somebody that is Master of a true English Pronunciation, to teach him to pronounce the fourteen Monosyllables exemplifie'd p. 1. of this Appendix, and as many as he will of those in the Table p. 36, transcribeing and adding to it what seems to himself convenient. When he can do that, let him put over every Vowel the Character which he will find at Top of the respective arithmetical Figure, Plate I. line 4. Do this three or four Times over, no matter how slow, but be sure to do it exactly true.

Then practise a little to look over the Words, and sound the Vowel in each Word deliberately  without expressing the Consonants. Then being provided with rule'd Paper, practise to write the nine Vowels about a Quarter of an Inch above the Line, forwards, and backwards, and in any mix'd Order, ever minding to utter the Sound of the respective Vowel with your Voice, at the same Instant you strike the Stroke with your Pen. Onely, if you find any Difficulty or Uncertainty in sounding the Ninth, never trouble yourself about it; but take care to make yourself so much Master of the rest, as to be able

able to strike any one of them instantly upon hearing it's Sound: and then I think you will be qualifie'd to teach yourself, in many Instances better, and with less Hazard of Mistake than one can teach another the Nature—

### Of particular Diphthongs.

**H**owever, Common Spelling being much more irregular in expressing Diphthongs than in simple Vowels, and the Pronunciation of different Counties inexpressibly various; it may be proper for the Learners Incouragement to give some Account of 9 or 10 remarkable ones, and to put him in the Way of apprehending what is to be known and thought of the rest when he meets with them.

1. A Diphthong compounded of the Vowels 1-4 is much use'd by my Countrymen in *Norfolk*, and very unpolitely I confess, especially when with too much of 1, in Syllables spelt with *ai*, *ay*, as *play*, *plain*, &c: which are more agreeably pronounce'd with 2-4, or defectively with 2 only; in *Leicestershire* with 3 only, or emphatically with 4; and by some People, in some Words, as *Faith*, with 5 only, a Sound improperly call'd a Diphthong.

2.

2. A Diphthong compounded of 1-8 is pronounce'd in *raw*, &c. but only by some in *Suffolk* that I know of; which are more agreeably pronounce'd with 5 only: This Diphthong is mention'd especially because it will sometimes occur in pronouncing Hebrew according to my Method.

The Word *You* is by some in *Norfolk* pronounce'd with this Diphthong 1-8, by others not much better with 2-8. Politer Persons affect to do it with 3-8, or with 8 only, and generally speaking fewer Diphthongs occur in polite Pronunciation than rustic.

3-8 is the genuin English of u long, which some Persons not able to hit upon pronounce 8 only, and others add too much of it. There are some in *Norfolk* [*Lyn*] that use this Diphthong instead of 8, as in *Spoon*, &c.

*Town, down, mount, our, hour, proud, round,*  
*sound, pound, Cow, Sow, how, now, bough, bowe,*  
i. e. bend the Body, are commonly pronounce'd with 2 8, but unpolitely if with too much of 2; northerly with 8 only.

*Know, low, Bow*, i. e. the Instrument, are mostly sounded with 5-8, more agreeably with 6-8, or perhaps as by some with 6 only.

Sounding first, 7 as short as possible, add to it in the same Breath 4 long, and that will

prove the genuin English Sound of i long, which among us commonly passes for a simple Vowel.

All Foreigners pronounce that Letter with the simple Vowel 4, and they that pronounce this Diphthong write it with other Letters. Many of our own Nation instead of this Diphthong pronounce i 4, others 5-4, and North Countrymen as Foreigners do, 4 only; as, for *Christ, Chraist, Chroist, Chreest.*

5-4 is a Diphthong commonly pronounce'd in Syllables spelt with *oi, oy*, which sounding somewhat broad is sometimes evaded by pronouncing 7-4; some Persons endeavour to make a Diphthong of 6-4. The Notes on the suppose'd Consonants w and y make it less necessary to remark as Diphthongs many Syllables, which the attentive Reader, who discerns those two Letters to be Vowels, cannot miss observing.

I know no Diphthong beginning with the 9th: those that end with it are very numerous, but not worth Notice for any Reason but this, that because the 9th is but just heard in them, and if not heard at all is hardly to be miss'd, an unwary Reader may be impose'd upon, and fancy himself to discover new simple Vowels.

Thus much may serve to shew how Diphthongs are form'd by the Voice. How their

Cha-

Characters may be compounded, he may take Pattern by such as occur in the Specimen Plate 10, or may put them together himself in what Manner he like's best.

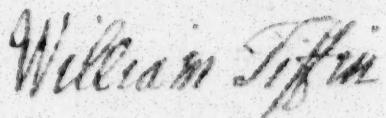
For Exercise in them, first take the Words that are here exemplifie'd; write each Word (in common Writing) as many Times over at least as there are various Pronunciations here mention'd, then over its Vowel or Diphthong set that simple or compounded Character which represent's it's simple or compounded Sound; and do it over to answer every Variety of Pronunciation that you remember, and distinguish that you like best yourself. That done, with such Additions to it as your own Observation may lead you to make, it will be usefull to take any English Book of small Value, that is but printed in a good fair large Letter, and with your Pen set over head of the Vowels and Diphthongs, their respective Characters denoting how they are or ought to be pronounce'd. When you find yourself able to perform it without much Difficulty, then employ yourself in marking the Vowels and Diphthongs, according to their approve'd Pronunciation, in some good Catalogue of English Words. And if you never happen to proceed to get a Swift

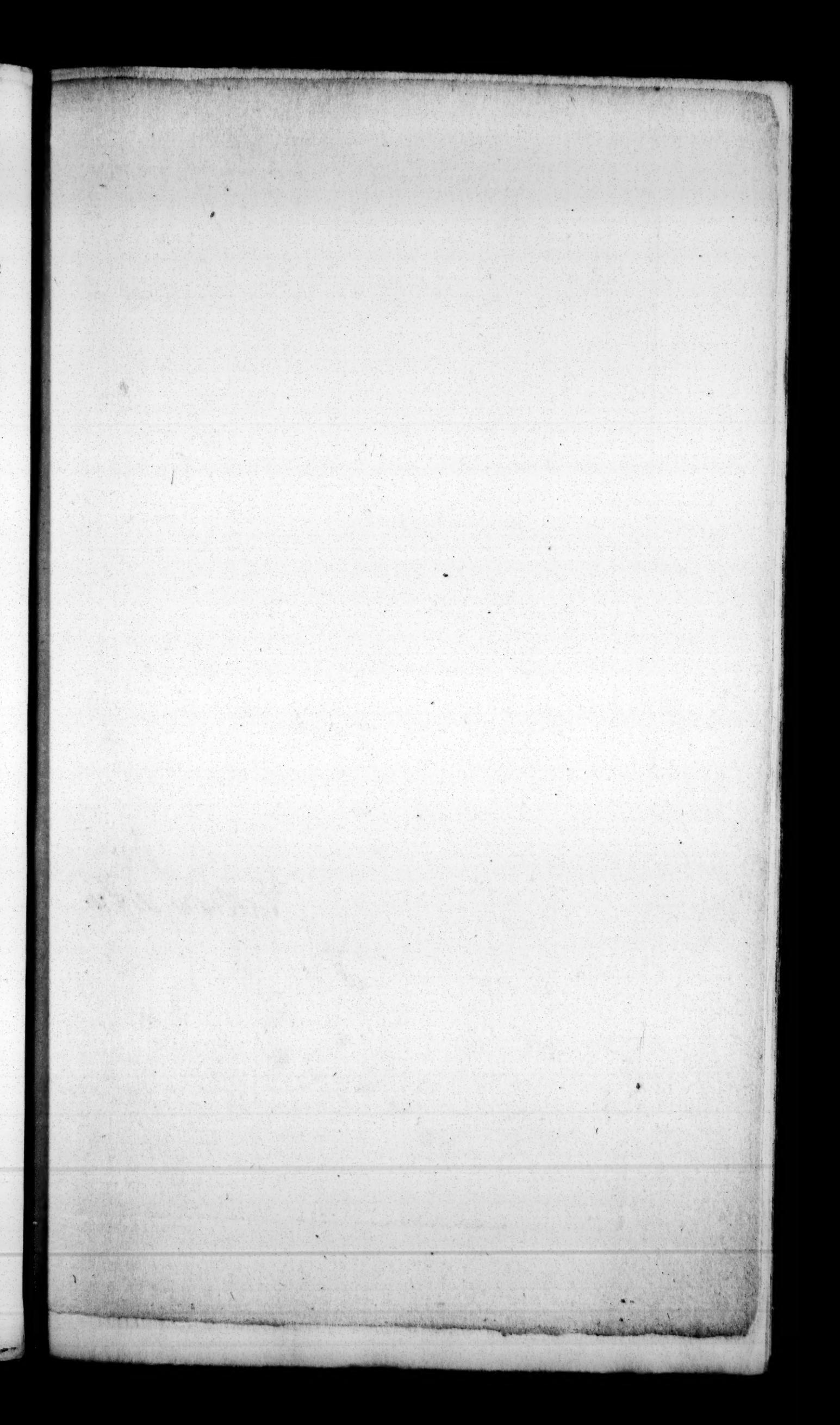
Hand at Writing, you will nevertheless have done somewhat towards forming a Standard, by which the various Pronunciations of our common Language may be distinctly register'd and compare'd, and probably in Time be brought nearer to Unity and Analogy.

## F I N I S.

## A D V E R T I S E M E N T.

**I**N order to preserve my own Right in this Work, and do Justice to my Subscribers, and all fair Purchasers, in detecting counterfeit, or surreptitious Copies, I do in all Copies given or sold by me, or my Order, with my own Hand subscribe my Name.





A handwritten musical score on lined paper. The score consists of three staves. The top staff has six measures: a dotted half note, a quarter note, a eighth note followed by a fermata, a half note, a whole note, and a half note. The middle staff has five measures: a dotted half note, a quarter note, a eighth note followed by a fermata, a half note, and a whole note. The bottom staff has nine measures: a dotted half note, a quarter note, a eighth note followed by a fermata, a quarter note, a eighth note followed by a fermata, a half note, a whole note, a half note, and a whole note.

c-1-2 - 1 sc-z qrm

C C 21

127 - 2- - 900 ~ 10- 1)

wh - - - - - h' 1, 2-1 2-1

15-1, hν < 1 μm

- - . . . -  $\alpha x^c$  :  $C$  -  $C$ .

$\Gamma_{\alpha\beta\gamma} \rightarrow \Gamma' = \Gamma^{\alpha\beta\gamma}$

ll b~ , ~ c nyc - c qc--

ll v~ 3~

ll c ~ / ' r - r' cs ~ . v

ll f i ~ , xc , l c . v

ll ll ll k ,

ll ~ ~ , l ~ ll c ll . v

ll ll ' cs ~ q- c - cg v , j

-q ! xc ! .

ll ch ~ r - r' . v - l , ll v , k

ll - 29 ~ - 1 , l ~ ! ,

ll ~ , l ~ - u - r , v ,

ll ~ r ll c ~ g c - c th g

b~ / ~ thy , b~ / ~ thigh

- a ~ - - u o - e -

, ~ - - . , -

~ - c ~ t ~ g - ng -

~ - r - v ' / ~ angry ~ ~

c , l , - n ~ c ~ , c u ~ a n g - g y

- , a n g - r y - ~ a n - g r y

2 - c , e , u , ~ l - n ~

- r , - - r , u , u , t , a . - -

- u , - , - k , w . - ,

y , - c , o , ~ , b , u - c

o , k , r , o , - , c

4

67. 12-111-1-1

$x_4 = 1 \quad c = 1 \quad x_1 = 0 \quad x_2 = 0 \quad x_3 = 0$

, Z - -

7 c 5 c 2 c 6 i - 3 ~ 1 ~

$\exists x \forall y \exists z \forall w \neg (x = y \wedge z = w)$

- ' i n - g - t i o n s i n , ~ - ,

1000

1.  $\neg (K \wedge L) \vee (M \wedge N)$

2010 10-10 0000000000000000

( - / x t c ) c /

( . )

$\tau - z \neq r - c - w$

، / ۱ - / ، ۸ ۹ / ) - ۵ ۷ - ~ ^

۱ ۸ ۹ ۱ - ۹ ۹ ۹ ۹ ۹ ۹ ۹ ۹ ۹ ۹ ۹ ۹ ۹

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7. . . . . . . . . . . . . . . .

ur g n - q t b i u v h - c

x c ~ r , c r - l - v ( )

v r r , ~ r ~ - r , r - r ,

- l - r , r ( ) v - v ( )

x v g i , v ~ h - c v - i

- l / i i i g - , v . i . N B

v v v - v - , v - v - v v

v v h - c r ! v - v - v v v

v l r s c - g v v v v - l -

v - v h -

v - v v - v - v - v ble. dle.

fle, gle, kle, ple, &c. - r-r : w.

" " call ion & l re - ion

r l r' - l . l , r co o - e - - -

co r co c x or ~ y e , b l o

w g w r w d w bly &c. w r

w - g w r l . l n i n h d w

re u , r c - ' r u w - n

- n b l r' l x r g b l

w l n , l c n , l y u v n - n c

c l ~ c l ~ r n c d c g v n g

a' l - r ' c , - c , ^ c , c n , - - c

d ; r r o g - - l . l v - , -

l v q c ~ r l p , ~ r ~

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2 3 - 7 8 6  
6 2 5 1 7 9  
2 4 6 8 10 9  
3 5 7 9 11 10  
1 3 5 7 9 11  
0 2 4 6 8 10  
1 3 5 7 9 11  
2 4 6 8 10 12  
3 5 7 9 11 13  
4 6 8 10 12 14  
5 7 9 11 13 15  
6 8 10 12 14 16  
7 9 11 13 15 17  
8 10 12 14 16 18  
9 11 13 15 17 19  
10 12 14 16 18 20